

Appl. No. : 09/990,075
Filed : November 21, 2001

REMARKS

Claims 1 and 9 have been amended to clarify the invention. Support for the amendments to Claims 1 and 9 can be found in paragraph [0046] on pages 11-12 of the substitute specification, for example. Claims 2 and 10 have been amended solely to correct informalities. Claims 3-8 and 11-13 have been canceled as being directed to a non-elected invention. Claims 14-17 have been added. Support for Claims 14 and 16 can be found in paragraphs [0029], [0030] on pages 6-7 of the substitute specification, for example. Support for Claims 15 and 17 can be found in paragraph [0046] on pages 11-12 of the substitute specification, for example. The specification has been reviewed to correct informalities in reply to the Examiner's request. A substitute specification and a marked-up version thereof have been submitted herewith. The amendments do not constitute the addition of any new matter to the specification. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Objection of the Specification

The specification has been objected to because of the presence of all possible minor errors. The specification has been reviewed to correct informalities, and a substitute specification and a marked-up version thereof have been submitted herewith. Applicant respectfully requests withdrawal of the objection.

Rejection Under 35 U.S.C. § 102

Claims 1, 2, 9 and 10 have been rejected under 35 U.S.C. § 102(b) as being anticipated by US 5,773,178 (Shiota). The claims as amended herein could not be anticipated by Shiota as explained below.

In the present invention, a side chain type liquid crystal polymer which is capable of homeotropic alignment solely by heating is applied on a substrate, and then is homeotropically aligned on the substrate by heating. In contrast, in Shiota, a photopolymerizable liquid crystalline monomer is applied on a substrate, and AC potential is applied thereto, and then ultraviolet is applied thereto (Example 1). In Shiota, AC potential is required to align the monomer on the substrate before polymerization. Thus, clearly, in Shiota, alignment treatment must be excised on the monomer already applied on the substrate. This technology is equivalent to using a substrate having a vertical alignment film formed thereon.

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In the present invention, it is significant to homeotropically align the specific liquid crystal polymer on a substrate on which no vertical alignment film is formed. This can be accomplished simply by heating. Heat treatment is utilized for homeotropically aligning the specific liquid crystal polymer, not for forming a polymer.

Accordingly, the processes disclosed in Shiota are entirely different from the present invention. Shiota fails to disclose every element of the claimed invention, and withdrawal of the rejection under 35 U.S.C. § 102(b) is respectfully requested.

New Claims 14-17

Claims 14 and 16 have been added to further recite the specific side chain type liquid crystal polymer. Such polymer is not disclosed in Shiota. Claims 15 and 17 have been added to further recite the specific heating temperature. Such temperature is not disclosed in Shiota et al. These claims are dependent on Claims 1 or 9, and for that reason, and for the above additional reasons, Claims 14-17 are patentable over Shiota.

CONCLUSION

In light of the Applicant's foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410. A duplicate copy of this sheet is enclosed.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: August 19, 2003

By:



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